

NASA TECH BRIEF

Marshall Space Flight Center



NASA Tech Briefs announce new technology derived from the U.S. space program. They are issued to encourage commercial application. Tech Briefs are available on a subscription basis from the National Technical Information Service, Springfield, Virginia 22151. Requests for individual copies or questions relating to the Tech Brief program may be directed to the Technology Utilization Office, NASA, Code KT, Washington, D.C. 20546.

Oxygen Sensitive Paper

The problem:

Accurate oxygen concentration analyses are always performed by rather large, bulky, and expensive apparatus which are not suitable for field use. Detailed analysis, however, is often unnecessary in applications that require oxygen detection or measurement of its approximate concentration.

The solution:

An oxygen sensitive paper has been developed which detects oxygen concentration as low as several parts per billion.

How it's done:

The paper is impregnated with a mixture of methylene blue and ethylenediaminetetraacetic acid which is the oxygen sensitive constituent. The methylene blue is then photo-reduced to the leuco-form. The paper is kept isolated from oxygen until it is ready for use. The paper can be reused by photo-reduction after exposure to oxygen.

Note:

Requests for further information may be directed to:
Technology Utilization Officer
Marshall Space Flight Center
Code A&PS-TU
Marshall Space Flight Center, Alabama 35812
Reference: B73-10103

Patent status:

Inquiries concerning rights for the commercial use of this invention should be addressed to:
Patent Counsel
Marshall Space Flight Center
Code A&PS-PAT
Marshall Space Flight Center, Alabama 35812

Source: J. F. Whidby of
General Electric Co.
under contract to
Marshall Space Flight Center
(MFS-22354)